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UNITED STATES DEPARTMENT OF AGRICULTURE

Soil Survey

of

Coosa County, Alabama

By

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United States Department of Agriculture, in Charge

and

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Alabama Department of Agriculture and Industries

Bureau of Chemistry and Soils

In cooperation with the

Alabama Department of Agriculture and Industries

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SOIL SURVEY OF COOSA COUNTY, ALABAMA

By ARTHUR E. TAYLOR, United States Department of Agriculture, in Charge, and J. F. STROUD, Alabama Department of Agriculture and Industries

COUNTY SURVEYED

Coosa County lies in the east-central part of Alabama (fig. 1). Rockford, the county seat, is about 40 miles north of Montgomery and about 60 miles southeast of Birmingham. The county is almost square, and comprises an area of 646 square miles, or 413,440 acres.

Physiographically the area inclosed by the Coosa County boundaries is the remnant of a high plateau which has been severely dissected by stream action, thereby producing a rugged surface relief over the greater part. A line, beginning on the southern border about 5 miles east of Coosa River, running northeast to a point a short distance west of Rockford, and leaving the county about 5 miles west of Good Water, divides the county into two topographic divisions. Practically all the country west of this line has rough semimountainous and mountainous surface features including two broken parallel ridges extending in a northeast-southwest direction, which are the result of the hard rock formations that have resisted weathering. The highest of these ridges is in the north-central part of the county, its highest point being Terrapin Hill, which rises to an elevation of 1,341 feet above sea level. The crest of this ridge ranges from 300 to 500 feet above the surrounding country, and the slopes are very steep and stony. The ridge, second in size and height, lies south of Weogufka; and Weogufka Mountain, with an altitude of more than 1,150 feet, is its highest point.

FIGURE 1.—Sketch map showing location of Coosa County, Ala

In the northwestern corner of the county are two narrow limestone valleys which run nearly parallel but gradually merge toward the south and form a Y. The surface features of the valleys consist of level, undulating, and gently rolling areas ranging in width from one half mile to 3 miles and lying from 200 to 700 feet below the crests of the ridges. The ascent from the valleys in most places is steep, and the slopes are prevailingly rocky, especially on the higher sides. With the exception of these two valleys, most of the northwestern part of the county is too broken, hilly, and steep for cultivation.

The remainder of the county, the southeastern or eastern two fifths, consists of broad rolling interstream areas which become hilly

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and broken as the streams are approached, although some of the smoothest upland areas occur in this part of the county. The streams have carved out narrow V-shaped valleys to a depth ranging from 50 to 200 feet below the general level of the plateau.

Coosa County lies within the drainage basins of Coosa and Tallapoosa Rivers. The principal watershed extends northward from near Equality to Nixburg, thence bears slightly east, passing through Kellyton and entering Tallapoosa County a few miles south of the northeast corner of Coosa County. West of this divide the streams flow westerly and southwesterly to Coosa River, and east of it the drainage is eastward and southeastward to Tallapoosa River. With the exception of Coosa River, which forms the western boundary of the county, the streams are small but flow rapidly, have cut deep valleys, and have completely ramified the upland, thereby affording drainage for all sections.

In the early agricultural development of Coosa County, it was necessary for the settlers to remove the virgin forest which completely covered the region. The trees growing on the crests of ridges were principally longleaf pine and shortleaf pine (locally known as rosemary pine) and those growing on the slopes were mainly longleaf pine, shortleaf pine, red oak, white oak, and hickory, with some chestnut oak, birch, maple, poplar, ash, dogwood, and ironwood. Poorly drained areas, which occur along streams and in depressions at the heads of streams, supported a virgin forest of poplar, sweetgum, black gum, maple, loblolly pine, bay, holly, azalea, and willow. A volunteer growth of broomsedge, coarse weeds, and briers invariably grows in old fields.

Coosa County was originally part of Talladega County and was established as a separate county in 1832. The early settlers, who were of Anglo-Saxon descent, came from Georgia, the Carolinas, and Tennessee. The present white population is chiefly native born, mainly descendants of the early settlers. The census of 1930 reports a total population of 12,460.[1] No large towns are in the county, the entire population being classed as rural, of which 9,821 are classed as rural farm and 2,639 as rural nonfarm. There are very few foreigners, and about one third of the population consists of Negroes. Most of the inhabitants live in those parts where the surface relief ranges from undulating to gently rolling, and the rough, broken, and mountainous parts are very sparsely settled. The average density of the population is reported as 19 persons to the square mile.

Rockford, the county seat, with a population of 320, in the central part of the county, and Good Water, with a population of 996, in the northeastern corner, are the principal towns and local markets. Good Water, Kellyton, and Parkdale are important shipping points on the Central of Georgia Railway.

Transportation facilities are very inadequate, as there is only one railroad, the Central of Georgia, which crosses the northeastern corner. Sand-clay State roads have been constructed across the extreme eastern, northeastern, east-central, and southern parts of the county. Dirt roads, graded and maintained by the county,

[1] Soil survey reports are dated as of the year in which the field work was completed Later census figures are given whenever possible.

reach all agricultural sections, but many square miles of rough broken land, northwest of Rockford along Hatchet Creek and between Travelers Rest and Marble Valley, have no roads. Most farming sections are reached by rural mail routes.

Next to agriculture, lumbering is an important industry. It is carried on throughout the county, but particularly in the more broken nonagricultural parts. During the winter, many farmers operate portable sawmills, cutting logs or crossties. Many of the longleaf pine trees are boxed for turpentine. A graphite company is operating about 2 miles west of Mount Olive.

CLIMATE

The climate of Coosa County is characterized by long summers and short mild winters. Although periods of freezing weather occur in January and February, they seldom last more than a few days.

In general, the rainfall is well distributed throughout the year. However, a study of the climatological data from the Weather Bureau station at Montgomery, extending over a period from 1873 to 1928, shows that within that period excessively wet springs occurred five times, when the total precipitation for April, May, and June exceeded the average by more than 7 inches, and that droughts occurred five times, when the precipitation was more than 6 inches below normal. It is assumed that spring periods of excessive rainfall and drought, which interfere very much with crop production, are about the same for Coosa County as for Montgomery.

At Good Water, which is located in the northeastern corner of the county, the average frost-free season is 225 days, from March 25 to November 5, which is long enough for the production of all the important crops grown. Frost has occurred at this place as early as October 11 and as late as April 26. Turnips, cabbage, collards, lettuce, beets, onions, and radishes are grown during the winter and usually escape injury, and winter cover crops, such as vetch, winter peas, rye, oats, and wheat, do well.

The factor which causes rather wide differences in the length of the frost-free season in different parts of Coosa County is the topographic location in respect to air drainage. It is a well-known fact that points situated on the tops of ridges and along and adjacent to the upper slopes, where the cold air drains off down the slopes, are often entirely free from the severe killing frosts of the floors of the valleys and lower slopes, where the locations are favorable for the accumulation of the cold air from the ridges and slopes. Certain parts of the larger valleys, as well as some of the smaller valleys, are frequented by heavy fogs which modify the low temperatures, so that crops escape some of the later killing frosts of the spring and the earlier ones in the fall. The snowfall is negligible.

Other factors that tend to delay very materially the time of planting on some of the level or undulating lands are the heavy spring rains which, on account of the poor natural drainage of the land and the comparatively small quantities of ditching that have been done, cause the water-soaked soils to remain very cold until late in the spring, greatly retarding the planting and the germination of seed.

Table 1, compiled from the records of the Weather Bureau station at Good Water, gives the more important climatic data for Coosa County.

TABLE 1.—*Normal monthly, seasonal, and annual temperature and precipitation at Good Water, Coosa County, Ala.*

[Elevation, 826 feet]

Month	Temperature			Precipitation		
	Mean	Absolute maximum	Absolute minimum	Mean	Total amount for the driest year (1897)	Total amount for the wettest year (1900)
	° *F.*	° *F*	° *F*	*Inches*	*Inches*	*Inches*
December	45 7	80	9	4 97	1 05	7 38
January	45 2	84	5	5 40	3 20	4 08
February	45 9	79	−8	5 62	4 33	10 28
Winter	45 6	84	−8	15 99	8 58	21 74
March	56 2	93	13	5 60	8 38	5 35
April	62. 6	92	26	4 21	3 90	6 10
May	70 9	100	35	3 68	10	2 30
Spring	63 2	100	13	13 49	12 38	14 25
June	78 0	106	45	3 86	3 18	10 35
July	79 7	105	55	5 68	4 16	6 60
August	79 4	105	54	4 75	3 62	4 79
Summer	79 0	106	45	14 29	10 96	21. 74
September	75 7	102	37	2 78	94	3 44
October	64 2	99	25	2. 79	00	8 74
November	54 0	88	12	3 00	1 78	5. 57
Fall	64 6	102	12	8 57	2. 72	17 75
Year	63 1	106	−8	52 34	34 64	75 48

AGRICULTURE

Since the early part of the nineteenth century, Coosa County has been preeminently agricultural. Of necessity the early settlers produced crops which supplied them with food as well as material for their clothing. Clearings in the forest were made and crops, such as corn, cotton, sweetpotatoes, tobacco, wheat, oats, rye, and barley, were grown. Crops were not rotated, but when the productiveness of the soil decreased the land was abandoned and new fields were cleared. Cattle, hogs, and sheep were raised on the open range. Augusta, Ga., and Charleston, S.C., were the nearest markets.

According to census reports, the leading crops of the county in 1879, named in the order of their acreages, were corn, cotton, wheat, and oats, and in 1889, cotton, corn, oats, and wheat. This order continued until the boll-weevil infestation in the last part of the decade 1910–1920, when the corn acreage again exceeded that of cotton, the cotton acreage being reduced from 32,047 acres in 1909 to 12,196 in 1919. The wheat acreage decreased from 9,735 acres in 1879 to 28 in 1909, but increased to 836 in 1919. Corn, which was produced on 27,843 acres in 1919, had remained about the same for 40 years, but, accord-

ing to State statistics, had fallen to 20,000 acres in 1928. The oats acreage decreased from 7,467 acres in 1909 to 1,441 in 1919, but according to State statistics, increased to 2,000 in 1928.

In 1919, hay and forage ranked next to cotton in acreage. The same census report shows that 2,599 acres were devoted to tame or cultivated grasses, with a yield of 2,372 tons; coarse forage was grown on 2,409 acres and yielded 586 tons; legume hay on 773 acres yielded 693 tons; grains cut green were grown on 366 acres and produced 150 tons; and wild grasses were cut from 141 acres and yielded 374 tons.

The census report shows that 1,769 acres were devoted to dry peas in 1919, with a yield of 8,342 bushels; 884 acres to sweetpotatoes and yams, producing 73,322 bushels; 398 acres to peanuts, with a production of 4,653 bushels; 706 acres to sorgo, with a yield of 6,543 tons of roughage and 37,605 gallons of sirup; and 362 acres to sugarcane, yielding 2,176 tons of roughage and 36,697 gallons of sirup.

In the northeastern part of the county more than 1,500 acres, according to estimates of farmers, were planted to watermelons in 1928. They mature during the latter part of August and through September and are shipped to Birmingham.

A few farmers in the vicinity of Good Water are successful in growing pecans, the leading varieties of which are Schley, Stuart, Success, and Moneymaker.

There are no commercial orchards, although many farms have small orchards which, as a rule, are very poorly kept. The orchards include mainly peach and apple trees, with some plum, pear, and fig trees. The census of 1920 reports 11,885 peach trees, yielding 15,168 bushels of fruit in 1919; 11,133 apple trees, yielding 11,576 bushels; 2,599 plum and prune trees, yielding 3,037 bushels; 551 fig trees, yielding 5,505 pounds of figs; 953 grapevines, yielding 10,521 pounds of grapes; and 576 pecan trees, yielding 2,206 pounds of nuts.

A survey of the agriculture of the county as a whole shows that a very marked reduction has taken place in the acreage of the main crops during the last 8 years. This, in a measure, was caused by the boll-weevil infestation of cotton, by the inundation of several thousand acres of the best cornland along Coosa River and its tributaries after the installation of several large power dams by the Alabama Power Co., and by erosion removing the surface soil or depleting its fertility; but far more than any of these, crop reduction is the result of the failure of the younger generation to follow the occupation of their fathers—casting their lot with the wage earners in the factories of the cities.

Table 2 gives the acreage and yields of the principal crops of Coosa County, as reported by the 1930 census.

TABLE 2.—*Crop acreages and yields in Coosa County, Ala., in 1929*

Crop	1929		Crop	1929	
	Acres	*Bushels*		*Acres*	*Bushels*
Corn			Potatoes	83	4,951
Harvested for grain	17,655	232,925	Sweetpotatoes	505	40,911
Cut for fodder	208	-------	Vegetables for sale	477	-------
Hogged off	11	-------	Peanuts	508	5,225
Wheat	2	12	Soybeans	72	114
Oats			Cowpeas	266	1,921
Threshed	30	612			
Cut and fed unthreshed	1,550	-------		*Trees*	
Hay			Apples	9,714	3,625
Timothy and (or) timothy and clover mixed	1	1	Peaches	14,460	1,181
Clover	1	1	Pears	1,862	790
Tame grasses	334	300			
Wild grasses	55	58		*Vines*	*Pounds*
Small grains for hay	25	26	Grapes	1,012	9,941
Annual legumes	358	342			
				Trees	
		Bales	Pecans	1,300	3,954
Cotton	18,294	5,078			
				Acres	*Quarts*
		Gallons	Strawberries	5	3,171
Sugarcane for sirup	170	24,665			
Sorgo for sirup	405	32,136			

Dairying is not an important industry. Most farmers keep one or two cows, and a few keep more, chiefly to supply milk and butter for home use. Some milk is delivered at Sylacauga, Talladega County; cream is shipped to Birmingham; and butter is sold at local markets. Grade Jerseys are the most common type of dairy cow. Very few horses and mules are raised, but hog raising is given some attention in connection with corn growing on the bottom lands. Duroc-Jersey, Berkshire, and Poland China are the predominating breeds. Most farmers keep from 25 to 60 chickens. Some small farms specialize in poultry, and White Leghorn is the favorite breed.

In 1929, fertilizers to the value of $109,584 were used on 1,651 farms. A mixture consisting of 3 or 4 percent nitrogen, 10 percent superphosphate, and 3 or 4 percent potash is most commonly used. Some of the better farmers mix their own fertilizer, using the formulas recommended by the experiment station at Auburn.

Farm labor is scarce. Laborers are paid from $20 to $30 a month, or $1.50 a day when hired for shorter periods. Members of the farmer's family do most of the farm work, and exchange of help among neighbors is commonly practiced when extra labor is needed. The census of 1930 reports a total expenditure in 1929 of $22,531 for labor, or $47 for each of the 479 farms reporting.

The land under cultivation decreased from 71.5 percent in 1880 to 48.1 percent in 1930. The average size of farms decreased from 141 acres in 1880 to 107.5 acres in 1930, of which 32.7 percent is classed as improved land, including crop land and plowable pasture. Much of the rough, broken, and mountainous land is in large holdings ranging from 1,000 to 60,000 acres.

Farm land is rented largely on the share basis. The common custom is for the landlord to direct the farm operations, in order that a crop sufficient to cover the rent may be assured. Ordinarily when the landlord supplies the work animals, tools, seed, and one half the fertilizer, he receives one half the crop. When the tenant

supplies the work animals, labor, seed, two thirds of the corn fertilizer and three fourths of the cotton fertilizer, he receives three fourths of the crop. The 1930 census reports 45 percent of the farms operated by the owners, and 55 percent by tenants.

The owners of the better farms have substantially built houses which are kept painted and in good repair, and fair-sized barns are provided to house the work animals and for the storage of feed, but probably four fifths of the farmhouses are small 1-room to 5-room cottages, many of which are unpainted. As a rule, on the small farms the barn is a 1-room structure with sheds on the sides for the work animals, and the farm equipment usually consists of a mule, a wagon, a plow stock (locally known as a single stock), and a turning plow. Many farmers use 2-horse plows, and a few use tractors for breaking the soil.

Land values are dependent on the character of the soil, the farm improvements, the quantity and quality of the growing timber, and the location with respect to improved roads, shipping points, markets, towns, schools, and churches.

The Alabama Agricultural Experiment Station at Auburn has, through field experiments, proved that the best fertilizer for cotton [2] on soils in this region consists of a mixture of 100 pounds of nitrate of soda, 200 pounds of superphosphate, and 25 pounds of muriate of potash. Most profitable returns are obtained where 650 pounds an acre of this mixture is applied. In the experiments, all the superphosphate, all the potash, and one fourth of the nitrogen were applied in the bed immediately before planting; the remaining three fourths of the nitrogen was applied just prior to the first cultivation, after the cotton was chopped. The above recommendation is for all soil types in this region, as fertilizer experiments for the individual soil types have not been worked out. On soils in this part of Alabama, according to field tests made by the experiment station, nitrate of soda has given more profitable returns than cottonseed meal for cotton.

A number of varieties of cotton and of corn are grown. The most popular varieties of cotton are Cooks 1010 and Half-and-Half. The most popular varieties of corn are Hastings Prolific, Whatley Prolific, and Tennessee Red Cob. Corn is not generally fertilized, but some farmers apply about 150 pounds of nitrate of soda an acre when the corn is about 2 feet high, and results are profitable.

In most years, some oats are grown on the larger farms. Red Rustproof is the variety most commonly grown. Oats are either sown in the fall or in January or February. The fall-sown oats give the highest yields but are sometimes killed during the winter. Where not fertilized with stable manure, a top dressing of about 200 pounds of nitrate of soda is usually applied in late winter or early spring.

A small patch, ranging from about one-half to 1 acre or slightly more, of sorgo (sweet sorghum) is grown on practically every farm. It is made into sirup for home use, and some farmers feed some of

[2] WILLIAMSON, J. T., and FUNCHESS, M. J. FERTILIZER EXPERIMENTS WITH COTTON. Ala. Agr. Expt. Sta. Bul. 219, 24 p., illus. 1923. WILLIAMSON, J. T. FERTILIZER EXPERIMENTS WITH COTTON. Ala. Agr. Expt. Sta. Bul. 228, 31 p. 1929.

the cane to work animals, hogs, and cows. Sorgo does best on moist soils and is usually planted on the slopes or in lower places.

No definite system of crop rotation is practiced. A good crop rotation is an essential part of a good farming system, and every farmer should adopt a definite plan of rotation. One of the best rotations thus far suggested by the experiment station at Auburn is as follows: First year, corn with cowpeas (Iron or Brabham variety), velvetbeans or peanuts, followed by oats in the fall; second year, follow oats with soybeans, cowpeas, or peanuts; third year, cotton, followed by winter peas, vetch, or rye. This rotation can be modified to meet conditions on the individual farm.

Some farmers in Coosa County who have followed a rotation similar to the one given, in which legumes, such as peas and beans, are interplanted with corn, and winter peas or vetch sown in the cotton middles in the fall, have improved the soil and on many farms have more than doubled former yields. These farmers, by planting winter cover crops, have prevented much leaching and erosion of the soils. At the same time a fair supply of organic matter has been added to the soil, which renders the soil more retentive of moisture besides supplying the needed nitrogen. When nitrogen can be obtained by this method, less nitrate in the fertilizer is required. Also, when a good supply of organic matter is present in a soil, fertilizer gives a much better response.

Some of the farmers are terracing their land properly and cultivating rolling lands that would otherwise be subject to serious erosion, but many of the terraces are not built sufficiently wide and high or given the proper grade to prevent breaking during ordinary rains. When the breaks occur, much damage ensues. Erosion and gullying in the hilly lands are very destructive and have caused a great number of farms to be abandoned.

The greater part of Coosa County is too steep and hilly for profitable cultivation. Some of the owners of these rough lands are preventing the annual burning over, and as a result the land has reseeded to pines and hardwoods. It is said that all the land protected from forest fires will reseed naturally and produce a profitable crop of timber. Small areas of valuable agricultural soils are so low and flat that natural drainage is deficient. The farmers, by constructing drainage ditches, have reclaimed much of this land.

A few farmers have found that lime is very beneficial in the production of peanuts, vetch, peas, beans, and other leguminous crops. Lime is essential in growing alfalfa on the soils of this county.

SOILS AND CROPS

The relationships between the soils and the crops grown are similar to those of a large part of the southwestern piedmont plateau region. As Coosa County comprises the southwestern extremity of the Appalachian Mountains, it includes large areas of rough broken land which do not occur in many of the piedmont counties. With the exception of two small limestone valleys in the extreme northwestern corner, the surface relief of all the northwestern two thirds is so rough and broken that only small areas can be profitably farmed, and a large proportion of the land has never

been cleared or used for agricultural purposes. Perhaps 70 or 80 percent of the area of the county should be devoted to forestry.

Approximately 80 percent of the land lying east of a line extending northeastward from Welona through Rockford and Bradford to Good Water has been cleared and farmed, but large areas have been abandoned because of severe erosion and adverse economic conditions. Perhaps only about 25 percent of the soils east of this line occupy favorable surface relief and are at present suitable for general-farming operations. The surface relief influences crop production and the kind of crops grown more than does the kind of soil.

The surface soils as a whole are naturally low in plant-food elements, are deficient in organic matter, and are badly leached. They supported a mixed forest growth, and the little organic matter that was originally present in the soil or on the surface was dissipated after a few years' cultivation. Cotton has been the main crop for a long time, and clean cultivation of this crop, not followed by cover crops, has prevented the accumulation of organic matter in the soil.

The main agricultural soils are Cecil sandy loam, Cecil gravelly sandy loam, Madison gravelly loam, Appling sandy loam, Davidson clay loam, Decatur clay loam, Christian silt loam, Colbert silt loam, Holston silt loam, Wickham fine sandy loam, and Pope silt loam. Practically all these soils occupy favorable surface relief, the areas ranging from almost level and undulating to gently rolling and sloping. Natural surface drainage and internal drainage are good. Erosion, although active on the more sloping areas, has been much less devastating than on the soils of the hilly areas, on rough broken land, and on the mountainous areas. Fortunately all these soils have stiff but brittle clay subsoils and, as a rule, they contain a fair to high percentage of potash. The subsoils of these soils are the seat of the greater part of the plant food and serve as reservoirs for the soil moisture.

Based on their crop adaptations and factors influencing agriculture, the agricultural soils may be divided into two groups as follows: Soils having light-colored surface soils and soils having red clay loam surface soils. Rather wide differences exist in the broad characteristics of the soils in each group.

The soils having sandy surface soils include Cecil sandy loam, Cecil gravelly sandy loam, Madison gravelly loam, Appling sandy loam, and Wickham fine sandy loam. These soils are easy to cultivate with improved machinery, light plows, and cultivators, and even with hand hoes. They warm up early in the spring and drain out quickly, except some of the flatter areas of Appling sandy loam. Crops mature earlier on them, and for this reason they are rightly considered the best soils in the county for the production of cotton under boll-weevil conditions. Although they contain only a small amount of plant food in the surface layers, they respond readily to fertilization, to the addition of barnyard manure, and to the turning under of leguminous crops, such as cowpeas, soybeans, velvetbeans, and clovers. As these soils are susceptible to rapid leaching of organic matter and mineral elements, not all the nitrogenous fertilizers used should be applied at one time.

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Because of the physical characteristics of the soils having sandy surface soils, they are favored for the production of cotton, bright tobacco, peanuts, watermelons, cantaloupes, scuppernong grapes, sweetpotatoes, and truck crops. Where climatic conditions are favorable, the Cecil and Madison soils are considered the best soils for cotton in the piedmont plateau.

Owing to the low plant-food content of these soils, it is necessary to use commercial fertilizers, especially for the production of cotton, tobacco, and special crops. A very small quantity of barnyard manure is produced because only a few cattle are kept and no large dairy herds are maintained. Where manure has been applied to the land or green-manure crops turned under, good yields are obtained without the use of commercial fertilizers or with only a small quantity. Artificial drainage is a necessity in only a few places in the first bottoms and on a few of the flatter upland areas. On the other hand, terracing is absolutely essential on the sloping and rolling areas to protect the fields from washing and gullying and to restore eroded and waste areas to productive fields.

Cotton has been the principal agricultural product and the main cash crop, and in regard to farm income all crops have been subordinated to cotton. It has been grown indiscriminately on all the well-drained arable soils, even though some of the soils may not be well suited to its production. Most of the cotton has been produced on the sandy loams and on the limestone-valley soils, although some has been grown on the Davidson and Appling soils. Both the climate and soils are favorable to the production of cotton, and in the past this crop has been the most profitable one that could be grown which met the need for a cash income. It is a nonperishable product, has had a ready market at all times, and has afforded security for the purchase of fertilizer and other supplies and for the payment of rent. The prosperity of the farmers of Coosa County generally depends on the yield and price of cotton.

Corn is grown in all parts of the county on all the cultivable soils. It occupies an acreage larger than that devoted to cotton, but not a sufficient quantity is produced, or has been produced in the past, to meet local needs. Corn is used for feeding work animals, fattening hogs, and supplying meal for home use. The best yields of corn are obtained on the lower slopes, on the second-bottom land, on some of the meadow (Congaree material), and on the Colbert, Holston, and Wickham soils. The ordinarily low yields obtained on the high uplands are due to the fact that these soils are dominantly sandy, contain an insufficient supply of organic matter, and, because of shallow plowing or breaking of the land, the surface soil and subsoil do not retain a sufficient supply of moisture in dry seasons.

In addition to the two main crops, more importance is being given to the production of oats for grain, hay, and pasture. Cowpeas, soybeans, and rape are grown indiscriminately on various soils, and small acreages of winter hairy vetch and Austrian winter peas are grown for forage and as soil improvers. In the vicinity of Good Water a few farmers grow watermelons on a commercial scale and ship them to Birmingham and other markets or buyers with trucks purchase them at the field. These melons are produced mainly on

Cecil sandy loam and associated light-textured soils. On practically every well-established farm some apples, peaches, scuppernong grapes, and garden vegetables are grown. Only a few cattle and hogs are sold, and not all the farmers keep cows to supply milk and butter for home consumption.

In Alabama, and also in the adjoining States, the limestone-valley soils are considered among the best agricultural soils in the localities where they occur. In Coosa County, the soils in the small limestone valleys have, in general, favorable surface relief and are well adapted to the production of cotton, corn, and oats.

The sandy loams, and to some extent the silt loams, are favored for the production of cotton, peanuts, tobacco, and especially for truck crops. Appling sandy loam is well suited to the production of bright tobacco, and the lighter-textured areas of Cecil sandy loam also produce a light-colored leaf. Sorgo is grown in different parts of the county in small patches, but the best quality sirup is produced on the soils having light-colored surface soils and yellow or reddish-yellow subsoils. Sorgo generally grows best at the bases of slopes, where moisture conditions are most favorable.

Although the red-land soils, such as Davidson clay loam, Decatur clay loam, and Christian silt loam, are used indiscriminately for the production of cotton and other crops, they are best suited to the growing of clover, wheat, oats, and hay. Davidson clay loam is used in South Carolina and North Carolina for the production of alfalfa, in fact, it is considered the best alfalfa soil in the piedmont plateau. The characteristics of the surface soils and subsoils of the red-land soils are such as to make them, in other parts of the region, good grain soils. They can be built up to a high state of productivity, and this is more easily maintained than on the sandy soils. Deeper plowing, which increases the depth of the feeding zone for the plant rootlets, increases the amount of available plant food. With better moisture conditions and the addition of organic matter, these soils can be made to produce much higher yields than are normally obtained.

There are differences in the uses, or rather in the degree of usefulness, of even the hilly areas of the different soils. For example, the hilly phases of Cecil clay loam and of the Decatur and Madison soils are better suited for pasture than the hilly phases of Cecil gravelly sandy loam and Appling sandy loam, as Cecil gravelly sandy loam and Appling sandy loam are naturally stronger soils and are better adapted to forestry. Some of the hilly areas can be reclaimed by protecting them from further erosion, and small areas can be used for farming purposes, but the greater part of the hilly land and all the rough broken land and rough mountainous land should be used for forestry. Some areas are suitable for grazing.

The soils of Coosa County may be divided into the following three major groups, on the basis of surface relief and agricultural value: (1) Soils having smooth surface relief, (2) soils having hilly surface relief, and (3) soils having rough or mountainous surface relief.

In the following pages of this report the soils of Coosa County are described in detail, and their agricultural relationships are

discussed; the accompanying soil map shows their location and distribution in the county; and table 3 gives their acreage and proportionate extent.

TABLE 3.—*Acreage and proportionate extent of the soils mapped in Coosa County, Ala*

Type of soil	Acres	Per-cent	Type of soil	Acres	Per-cent
Cecil sandy loam	29,760	7.2	Madison gravelly loam, hilly phase	22,656	5 5
Cecil gravelly sandy loam	10,432	2 5	Madison clay loam, hilly phase	12,864	3 1
Madison gravelly loam	2,304	.6	Appling sandy loam, hilly phase	832	.2
Appling sandy loam	6,208	1 5	Decatur clay loam, hilly phase	128	.1
Davidson clay loam	192	1	Davidson clay loam, hilly phase	1,600	.4
Decatur clay loam	320	1	Hanceville gravelly silt loam	5,696	1.4
Christian silt loam	448	1	Talladega gravelly silt loam, smooth phase	14,592	3 5
Christian silt loam, gravelly phase	1,280	3	Conasauga gravelly silt loam	6,528	1 6
Colbert silt loam	1,152	3	Talladega gravelly silt loam	57,152	13 8
Wickham fine sandy loam	832	2	Hanceville gravelly silt loam, hilly phase	960	2
Holston silt loam	1,472	3	Rough broken land	105,536	25 5
Pope silt loam	4,800	1 1	Rough mountainous land	21,056	5 1
Meadow (Congaree material)	20,928	5 1			
Cecil gravelly sandy loam, hilly phase	73,152	17 7	Total	413,440	
Cecil clay loam, hilly phase	10,560	2 5			

SOILS HAVING SMOOTH SURFACE RELIEF

This group includes Cecil sandy loam, Cecil gravelly sandy loam, Madison gravelly loam, Appling sandy loam, Davidson clay loam, Decatur loam, Christian silt loam, Christian silt loam, gravelly phase, Colbert silt loam, Wickham fine sandy loam, Holston silt loam, Pope silt loam, and meadow (Congaree material). These soils are developed in the southeastern third of the county, in the limestone valleys, and along the streams. They range in surface relief from almost level, through undulating and gently rolling to rolling. With the exception of meadow (Congaree material) and a few of the flatter spots on the terraces and on the uplands, all these soils are naturally well drained. They comprise practically all the good farming land in the county. The greater part of them is or has at one time been cultivated, but probably not more than one half is at present devoted to farm crops. The remainder supports a second growth consisting of old-field pine, scrub oaks, and other trees, or has grown up to broomsedge and briers.

All the gravelly areas or phases are shown by gravel symbols on the soil map on the color of the soil type, and the hilly phases are represented by crosslining.

Cecil sandy loam.—The surface soil of cultivated areas of Cecil sandy loam consists of light-brown, light-gray, or brownish-gray sandy loam to a depth of 6 or 8 inches. The subsoil to a depth ranging from 30 to 36 inches is stiff but brittle red clay which carries an appreciable quantity of quartz sand and small mica flakes. Below this is light-red friable micaceous clay which ranges from 12 to 20 inches in thickness. This material grades into the soft disintegrated granite or schist rock. Scattered over most of the surface are a few irregularly shaped fragments of quartz and, locally, granite, gneiss, or schist, which range from 1 inch to 12 inches in diameter.

In places on slopes and narrow ridges, where erosion has been active, the surface layer is partly or entirely removed, and the material consists of grayish-yellow, reddish-yellow, or almost red heavy sandy loam. Where Cecil sandy loam is associated with Cecil gravelly sandy loam or its hilly phase, mapped areas include patches of those soils. At the base of slopes or in slight depressions the sandy covering may be from 10 to 15 inches deep.

Cecil sandy loam is a mellow and easily tilled soil, has favorable surface relief, ranging from undulating to gently rolling, and has good surface and internal drainage.

This soil occurs in large areas in the southeastern corner of the county. It is well developed at Nixburg, between Nixburg and Hissop, and south of Socapatoy and Kellyton.

Practically all the land of this kind has been cleared and is now farmed or supports a second growth of old-field pine and scrub oak. Abandoned fields are grown up to briers, sedges, and bushes.

Cecil sandy loam is one of the most extensive and the most important farming soils in the county. About 50 percent of the land is cultivated; 45 percent of which is used for cotton, 45 percent for corn, 5 percent for oats, and 5 percent for hay. Cotton yields average about one third bale an acre, but when seasons are favorable and the best methods of tillage and fertilization are practiced, yields of 1 bale an acre are not uncommon. Corn averages 12 bushels an acre. Ordinarily 200 pounds of a ready-mixed fertilizer are applied to the bed before planting cotton, but the better farmers use double this quantity of either a high-grade commercial fertilizer or a home-mixed fertilizer and follow this after chopping with a side dressing ranging from 75 to 150 pounds an acre of nitrate of soda. Corn usually receives from 100 to 200 pounds of a ready-mixed fertilizer at the second cultivation. A top dressing ranging from 75 to 100 pounds an acre of nitrate of soda is sometimes applied to oats early in April. Little stable manure is available.

Watermelons, on a commercial scale, are grown on this soil mainly in the vicinities of Good Water, Socapatoy, and Kellyton. Yields average about three fifths of a carload an acre. Pecans are produced in the northeastern corner of the county. On most of the farms on this soil a few apple and peach trees and some scuppernong grapes are grown. Soybeans are grown as a soil builder and for hay. Oats on most farms are cut for hay, but some are threshed for grain.

Cecil gravelly sandy loam.—The fine material in the surface soil and subsoil of Cecil gravelly sandy loam is essentially the same as that of Cecil sandy loam, but the soil differs in having a higher content of irregularly shaped fragments of quartz, quartzite, granite gneiss, or schist, which range from a fraction of an inch to more than a foot in diameter, but most of them range from 2 to 5 inches.

The same crops are produced on this soil as on Cecil sandy loam, and farm practices and yields are similar. In a few places the gravel occurs in sufficiently large quantities to interfere with hoed crops.

This soil occurs in small areas in the extreme southeastern corner of the county, along the southern border, and in the vicinity of Rockford.

Madison gravelly loam.—The surface soil of Madison gravelly loam consists of light-brown or brownish-gray loam, which at a depth ranging from 7 to 9 inches, grades into reddish-yellow or red clay loam. This passes quickly into the upper part of the subsoil of light-red or red stiff brittle clay containing minute particles of mica and some quartz sand. The lower part of the subsoil, beginning at a depth ranging from 15 to 18 inches, is red friable micaceous clay which becomes more friable and micaceous with depth, until the highly decomposed bedrock is reached at a depth ranging from 24 to 50 inches. The surface is covered with irregular-shaped small pieces of schist and quartz, ranging from a fraction of an inch to more than 12 inches in diameter, but most of them are between 2 and 5 inches.

Madison gravelly loam, as mapped, includes small patches of Madison clay loam and Madison clay on the steeper slopes where erosion has removed the surface soil, and small areas of Madison gravelly sandy loam on the lower and more gentle slopes where washed materials have accumulated.

The principal areas of Madison gravelly loam lie east and north of Rockford on the smooth broader ridges.

Madison gravelly loam is a mellow friable soil which can easily be worked into an excellent seed bed. Its good surface and internal drainage and undulating or gently rolling surface favor cultivation.

The crops grown, yields, fertilization, and methods employed are like those on Cecil sandy loam. The Madison soils in Georgia are considered slightly better soils for the production of cotton than similar types of the Cecil soils.

Appling sandy loam.—The 6- to 8-inch surface soil of Appling sandy loam is light-gray, light brownish-gray, or yellowish-gray rather loose porous sandy loam underlain by grayish-yellow friable sandy loam which extends to a depth ranging from 14 to 18 inches. The subsoil is reddish-yellow stiff but brittle clay which within a few inches becomes mottled with red and carries some small mica flakes and small quartz grains. The soft granite gneiss rock is reached at a depth ranging from 40 to 50 inches below the surface. Irregular fragments of quartz and granite gneiss, ranging in diameter from a fraction of an inch to about 9 inches, are scattered over the surface. Several fair-sized bodies of Appling sandy loam are scattered over the southeastern and southern parts of the county. Some of the best-developed areas are south of Travelers Rest, east of Gill, and southwest of Rockford.

Included with mapped areas of this soil are numerous small areas which have a yellow clay subsoil. Such spots would have been mapped Durham sandy loam had they occurred in larger areas. An area southeast of Schley has an Appling surface soil, but the subsoil is heavy, slightly plastic or plastic reddish-yellow clay.

Appling sandy loam is very deficient in organic matter, but the land is well drained and can be easily developed into a good seed bed. Its undulating or gently rolling surface is well suited for tillage.

This soil receives about the same fertilizer treatment as Cecil sandy loam, and the same crops are grown, but yields are slightly lower.

Davidson clay loam.—The surface soil of Davidson clay loam to a depth of 6 or 8 inches is dark reddish-brown clay loam containing considerable organic mater. The subsoil to a depth ranging from 40 to 50 or more inches is dark-red or maroon clay or silty clay. It is smooth and stiff, but brittle, and under normal moisture conditions breaks into irregularly shaped lumps which crumble into a friable mass. Locally a few very small black concretions of manganese occur in the lower part of the subsoil. The subsoil grades into ocherous-colored friable clayey material which is underlain by dark-colored basic rock, and fragments of the rock may be distributed through this layer. In places the surface soil is dark grayish brown, owing to the presence of a large amount of organic matter in the topmost inch or two. The surface soil contains sufficient silt to give it a smooth rather slick feel when moist. It is mellow and friable when dry.

The aggregate acreage of this soil in Coosa County is small. A few small areas are in the northeastern corner north of Good Water. The soil is everywhere well drained, occurring as it does in areas of gently rolling or undulating surface relief. It is considered one of the most fertile upland soils of the county. It is not so easy to till as the light-textured sandy soils, and cotton does not mature so early on it, therefore it is not desirable for the production of cotton under boll-weevil conditions.

Davidson clay loam could be built up to a high state of productivity and very easily maintained. It is the best alfalfa soil in the piedmont plateau and is also well suited to the production of clover, wheat, and oats. The method of handling this soil and the quantities of fertilizer applied are similar to those on the Cecil soils, but the yields of grain and hay are larger.

In table 4 are shown the results of mechanical analyses of samples of the surface soil, the subsurface soil, and the subsoil of Davidson clay loam.

TABLE 4.—*Mechanical analyses of Davidson clay loam*

No.	Description	Fine gravel	Coarse sand	Medium sand	Fine sand	Very fine sand	Silt	Clay
415820	Surface soil, 0 to 8 inches	percent.. 0.9	3 6	4 7	16 8	19 1	28.8	26.1
415821	Subsurface soil, 8 to 14 inches	percent.. 1.7	3 8	4.4	13.2	15 4	27.9	33 6
415822	Subsoil, 14 to 40 inches	percent.. 1.3	3.4	3 7	12.1	13.7	25.2	40.5
415823	Subsoil, 40 to 60 inches	percent.. 3.1	6.2	5.1	18.3	19 6	21 2	26.6

Decatur clay loam.—To a depth ranging from 4 to 7 inches, the surface soil of Decatur clay loam ranges in color from reddish brown to red and in texture from silty clay loam to clay loam or clay, depending on the degree of surface erosion from place to place. In most places a transitional layer of dark-red heavy silty clay loam occurs, which passes at a depth of 10 or 12 inches into red or dark-red stiff, but moderately friable, smooth clay. This clay material becomes lighter in color and more friable with depth and grades, at

a depth ranging from 40 to 60 inches, into red clay streaked or splotched with shades of ocherous yellow.

This soil occurs only in small areas in the limestone valleys in the northwestern corner of the county. It occupies areas of smooth or rolling surface relief. The soil is well drained, and erosion is active on the knolls and slopes where the land is not protected by terraces and winter cover crops.

Decatur clay loam is inextensive, but it is one of the strongest soils in the county. Practically all of it is under cultivation, and it is used almost exclusively for cotton, to which it is well suited. It is adapted to small grains, such as oats and wheat, and to clover. Yields of cotton range from one third to one bale an acre, the higher yields being obtained under the better cultural methods and when from 400 to 600 pounds of a high-grade commercial fertilizer is used. Oats, wheat, corn, peas, and beans return from fair to good yields.

Christian silt loam.—To a depth of 6 or 8 inches the surface soil of Christian silt loam varies in color from place to place from grayish brown or brown to reddish brown and in texture from silt loam to loam. In spots the surface soil contains a small quantity of varicolored small chert gravel. The subsoil is reddish-brown compact, but friable, silty clay or clay. It contains some rather soft chert fragments, that give it a splotched appearance when broken up, and also some hard chert and ironstone fragments. The subsoil becomes lighter in color and more friable with depth, and it grades, at a depth ranging from 40 to 60 or more inches, into partly weathered chert and shaly material which presents a varicolored appearance, ranging through shades of yellow, red, and gray.

Christian silt loam is developed in small areas in the limestone and shale valleys in the northwestern corner of the county. It occupies low knolls and gentle slopes and is well drained. It is an important agricultural soil, as it is easy to handle, responds well to fertilization, and is adapted to the general farm crops. It is especially well suited to cotton and is used mainly for that crop.

Cotton is generally fertilized with about 300 pounds of a mixture containing 8 percent phosphoric acid, 4 percent nitrogen, and 4 percent potash. The yields range from about one half to three fourths bale an acre. In favorable seasons and where larger quantities of fertilizer are used, yields of 1 bale an acre are not uncommon. Corn is the crop second in importance. It produces from 15 to 40 bushels an acre, the higher yields being obtained where green-manure crops, such as vetch or cowpeas, have been turned under or where nitrate of soda is used as a top dressing when the corn is about 2 feet high. Peas, peanuts, beans, and other crops give from fair to good returns.

Christian silt loam, gravelly phase.—The fine material of the surface soil and subsoil of Christian silt loam, gravelly phase, is similar to that in the corresponding layers of Christian silt loam. Soil of the phase differs in having a high content of angular chert and sandstone fragments, together with some thin platy shale particles. The gravel range from the size of a pea to 3 inches in diameter, and the quantity is sufficient to interfere to some extent with cultivation.

Soil of this phase is adapted to, and is used for, the same crops as typical Christian silt loam. The fertilizers used and crop yields obtained are practically the same as on that soil.

This gravelly soil is closely associated with the typical silt loam and was separated from it mainly on account of the content of gravel and other particles of rock. It is inextensive.

Colbert silt loam.—The surface soil of Colbert silt loam consists of a 4-inch layer of gray or yellowish-gray silt loam underlain by pale-yellow heavy silt loam. In wooded areas the upper 1 or 2 inches is gray or dark gray. The subsoil begins at an average depth of about 10 inches and consists of yellow heavy silty clay which becomes mottled with gray at a depth of about 20 inches. This grades into a mottled yellow and gray heavy compact plastic silty clay material.

Colbert silt loam has a nearly level or gently sloping surface. The run-off of rain water in most places is slow, and the heavy character of the subsoil material retards internal drainage. This soil lies a little lower than the associated Decatur and Christian soils.

This soil is small in extent and occurs in only a few bodies in the limestone valleys. Owing to its location and favorable surface relief, the land is practically all under cultivation. Corn is the principal crop grown, and yields range from 10 to 25 bushels an acre, the higher yields being obtained in more favorable seasons and where manure is used or an application of nitrate of soda is given when the corn is about 2 feet high. The soil is fairly well suited to sorgo, yielding from 50 to 75 gallons of sirup an acre. Oats do well on the better-drained areas but are sometimes killed by frosts. As the soil dries out slowly and warms up late in the spring, it is not suited to profitable cotton production.

Wickham fine sandy loam.—The surface soil of Wickham fine sandy loam to a depth ranging from 8 to 12 inches is brown or dark-brown fine sandy loam. It is underlain by light-brown fine sandy clay which, at a depth ranging from 20 to 30 inches, changes in color to yellowish brown. The soil material is friable and crumbly, and in places the subsoil is fine sandy loam.

Along Weogufka Creek in the vicinity of Moriah, the surface soil is brownish-red or red fine sandy loam and the subsoil is red friable loam. Just south of the Alabama Power Co.'s Lock No. 12 on Coosa River, the surface soil is brown fine sandy loam. It is underlain at a depth of 8 or 10 inches by pale-yellow fine sandy loam which extends to a depth of more than 40 inches. This soil occurs as second bottoms in a few small bodies along Coosa River.

Wickham fine sandy loam is a deep mellow soil well supplied with organic matter, is easy to till, has a favorable surface which is level or gently sloping, and has good surface and internal drainage. Cotton and corn are the main crops grown and good yields are obtained. All the land is under cultivation, and it is considered one of the best soils in the county.

Holston silt loam.—The surface soil of Holston silt loam consists of a 6- or 8-inch layer of yellowish-gray, pale-yellow, or brownish-yellow heavy but friable silt loam. It is underlain by pale-yellow or brownish-yellow friable silt loam or silty clay loam, mottled with shades of gray, brown, yellow, and, in places, red. This layer, in

turn, grades, at a depth ranging from 36 to 40 or more inches, into beds of partly weathered shales. Strewn over the surface and mixed with the surface soil and subsoil are various quantities of small angular shale, chert, and sandstone gravel, but not enough to interfere with cultivation.

As mapped, this soil includes areas of light-gray or grayish-yellow silt loam derived from limestone, also narrow strips of Pope silt loam along the small streams.

The surface relief of Holston silt loam ranges from nearly level to undulating and gently sloping streamward. The land is apparently fairly well drained except in some local spots. It is developed on second bottoms or low terraces along the streams in the northwestern corner of the county.

This soil is comparatively inextensive but on account of its favorable surface relief is an important agricultural soil. About 80 percent of the land is under cultivation, and the remainder is used for pasture and forestry. It is easy to handle and returns fair yields of most farm crops. Although it is not so well adapted to cotton as Christian silt loam, about 50 percent of it is planted to this crop, and the remainder is used principally for corn, sorgo, peas, peanuts, beans, and potatoes. Cotton produces from one-fourth to three-fourths bale an acre, depending on the kind and quantity of fertilizer used, cultural methods, and seasonal conditions. Corn yields range from 10 to 40 bushels, with an average of about 15 bushels. The higher yields are obtained where from 100 to 150 pounds of nitrate of soda are applied or where the soil has been built up by turning under leguminous crops, such as vetch and peas. Sorgo produces from 40 to 75 gallons of sirup an acre. Peas, beans, peanuts, and garden vegetables give fair returns.

Pope silt loam.—Pope silt loam consists of brownish-gray, yellowish-gray, or grayish-yellow friable silt loam merging, at a depth of about 8 inches, into grayish-yellow or yellow friable heavy silt loam which, below a depth of 18 inches, is mottled with dingy gray, pale yellow, bright yellow, rust brown, and brown.

As mapped, Pope silt loam contains numerous patches in the vicinities of Weogufka, Stewartsville, and Estelle School, in which both the surface soil and subsoil are brown silt loam to a depth of 40 or more inches. In other small areas in these same localities, the surface soil is light-gray silt loam and the subsoil is light-gray silt loam mottled with yellow.

Pope silt loam occurs only in narrow strips along the flood plains of streams in the northwestern part of the county. Its natural drainage is inadequate, and ditching is necessary, as the land is subject to frequent overflow.

This is a mellow and easily tilled soil. A large part of it is under cultivation and is devoted exclusively to the production of corn. Acre yields average about 25 bushels.

Meadow (Congaree material).—The areas classed as meadow (Congaree material) comprise flood plains or first bottoms and occur as narrow strips along the streams. Meadow consists of the fine material washed from the uplands and deposited by the streams. Because of the intermingling of soils, it is almost impossible to make proper type separations, but all the soils belong to the Congaree

series. The surface soils, extending to a depth ranging from 8 to 18 inches, are brown or dark brown, and the subsoils are brown, yellowish brown, grayish brown, grayish yellow, yellowish gray, and gray. The textures of both the surface soils and subsoils range from fine sandy loam to silt loam.

Meadow (Congaree material) has a high content of organic matter, is very mellow, and can be worked into a most excellent seed bed. In most places ditching is necessary to assure drainage. The sediments deposited by flood waters tend to maintain the productiveness of the soil, especially where the deposits are heavy and are laid down annually. The land is subject to overflow, and part of it remains wet throughout ordinary seasons.

About 50 percent of meadow is under cultivation, exclusively to corn. Yields average about 30 bushels an acre and range from about 20 to 75 bushels. A few areas are used for summer pasture for cattle. The more silty areas of this material are naturally high in plant food, perhaps higher than any other soil in the county.

SOILS HAVING HILLY SURFACE RELIEF

This group of soils includes Cecil gravelly sandy loam, hilly phase; Cecil clay loam, hilly phase; Madison gravelly loam, hilly phase; Madison clay loam, hilly phase; Appling sandy loam, hilly phase; Decatur clay loam, hilly phase; Davidson clay loam, hilly phase; Hanceville gravelly silt loam; Talladega gravelly silt loam, smooth phase; and Conasauga gravelly silt loam.

These soils occupy an intermediate position between the good farming soils and the rough lands or forest soils. Some of them, where the surface relief is favorable, are as good as some of the soils of the first group. They contain as much plant food as the soils in the first group and are inherently some of the best soils in the county. However, they are barred from general-farming operations because of steepness of slope and the rapidity of washing and gullying. Many areas of these hilly soils are already so badly gullied that they are not suitable for general-farming purposes.

Most of these soils have steeply sloping or hilly surface relief, with here and there some fairly smooth areas. Surface drainage is excellent over most of the areas—in fact, the rain water runs off too quickly, particularly in the areas which have been farmed.

Only a small percentage of the area of these soils is cultivated. Large areas were at one time cultivated, but the fields have been destroyed through erosion and are now abandoned and gullied areas. The unfavorable surface relief makes tillage difficult.

Where these soils are farmed, the same crops are grown as on the soils of the first group. Only the smoother areas should be cultivated, and slopes of as much as 10 percent or steeper cannot be farmed to clean-cultivated crops without suffering serious erosion. Some of this land can be used for pasture, especially land of the Conasauga, Hanceville, Decatur, and Davidson soils. A large part of the soils of this group should be used for forestry.

Cecil gravelly sandy loam, hilly phase.—The hilly phase of Cecil gravelly sandy loam differs from the typical soil in that it has a rolling or hilly surface, characterized by numerous steep slopes, a thinner

surface soil, and many more spots of clay loam, where erosion has removed the surface soil. It is subject to greater erosion and leaching, has more gravel scattered over the surface, and more numerous outcrops of bedrock than typical Cecil gravelly sandy loam. Because of the steep slopes, cultivation is more difficult and crop yields are lower than on the typical soil. The steeper slopes of the land of this phase should be devoted to forestry.

Large continuous areas of this soil are in the southeastern part and along the southern border of the county. It is well developed south of Rockford, around Pentonville, west and northeast of Equality, and northward to Crewsville.

Cecil clay loam, hilly phase.—The surface soil of Cecil clay loam, hilly phase, consists of reddish-brown loam to a depth ranging from 1 to 5 inches, where it is underlain by a 3- or 4-inch layer of red friable clay loam. This grades into a stiff, but brittle, red clay subsoil which is similar to that of Cecil gravelly sandy loam, hilly phase. On the surface are numerous irregularly shaped fragments of quartz, granite gneiss, or schist, ranging in diameter from an inch to more than a foot.

This soil occurs as large areas east of Equality, east of Nixburg, at Bradford, and southeast of Good Water. Many V-shaped gullies have been formed by erosion in soil of this phase. Only a small percentage of this hilly soil is sufficiently level to be farmed, unless protected by terraces.

Madison gravelly loam, hilly phase.—Madison gravelly loam, hilly phase, differs from the typical soil in having a thinner surface soil, many more inclusions of Madison clay loam, and more large irregular fragments of schist strewn over the surface, and in that the underlying formations (schists) are nearer to the surface and outcrop in many places. Northwest of Bradford several square miles are indicated by stone symbols, where large irregular-shaped fragments of schist, ranging in diameter from 6 inches to 5 feet, are strewn over the surface.

Crops grown and fertilizer treatment are much the same as on typical Madison gravelly loam, but yields are somewhat lower, and far greater difficulty is experienced by farmers in preventing erosion on the rolling or steeply sloping surfaces. The steeper slopes could most profitably be used for forestry and grazing.

Large areas of this soil are in the northeastern quarter of the county, beginning at Rockford and extending northward to Hanover and Mount Olive, and around Good Water.

Madison clay loam, hilly phase.—The surface soil of Madison clay loam, hilly phase, is reddish-brown, or almost red, loam or friable clay loam, which, at a depth ranging from 6 to 8 inches, is underlain by a red stiff brittle clay subsoil, similar to that of Madison gravelly loam, hilly phase. Scattered over the surface are many irregular-shaped fragments of schist and quartz, ranging in diameter from a fraction of an inch to more than a foot.

The soil is handled in the same manner and is used for the same crops as Madison gravelly loam, hilly phase, and the yields are about the same. Areas of this soil occur in the northeastern corner of the county northeast of Hanover and east of Good Water.

Appling sandy loam, hilly phase.—Appling sandy loam, hilly phase, is one of the inextensive and unimportant soils in the county. It occurs in the southeastern part, most of it bordering or closely associated with Appling sandy loam.

The hilly phase of Appling sandy loam is like the typical soil, except that it ranges in relief from rolling to hilly and is characterized by many steep slopes. Much erosion has carried away part of the surface soil and in many places has exposed the subsoil and underlying formation (granite gneiss). This soil also differs from the typical soil in that numerous large irregular fragments of granite gneiss, ranging in diameter from 6 inches to more than 3 feet, are on the surface.

The same crops are grown as on Appling sandy loam, but yields are lower and cultivation of the soil is much more difficult because of the steep slopes and the effects of destructive erosion.

Decatur clay loam, hilly phase.—Decatur clay loam, hilly phase, differs from the typical soil mainly in surface relief. It comprises rather high hills with rolling and steeply rolling sides. It is subject to severe erosion and has developed numerous clay spots where not protected by forest growth and grasses. Only a small percentage of this hilly soil is cultivated. Owing to its rolling surface it is best suited to forestry and pasture.

Davidson clay loam, hilly phase.—Davidson clay loam, hilly phase, differs from typical Davidson clay loam in having a rolling or hilly surface with steep slopes, where erosion has removed part of the surface soil and in places has exposed the maroon-red clay or silty clay subsoil. It is subjected to greater leaching, has some rocks on the surface, and numerous outcrops of the underlying formation. Cultivation is more difficult and crop yields on the few cultivated patches are lower than on typical Davidson clay loam.

Soil of this phase occurs only in the northeastern part of the county, north and northeast of Good Water. On account of its steep, hilly surface relief, it is best suited for pasture or forestry.

Hanceville gravelly silt loam.—The cultivated surface soil of Hanceville gravelly silt loam is brown or reddish-brown friable silt loam which, at a depth of 7 or 8 inches, grades into friable red clay loam or silty clay loam. At a depth ranging from 11 to 15 inches this layer is underlain by friable red clay or silty clay. Large quantities of irregular-shaped quartz and slate fragments, ranging in diameter from a fraction of an inch to more than 4 inches, are on the surface and to less extent are scattered throughout the surface soil and subsoil. In most places the shale or slate rocks from which this soil is derived are less than 30 inches below the surface.

North of Stewartsville, both the subsoil and surface soil material have a distinctly greasy feel and the texture is silty clay loam.

Hanceville gravelly silt loam has an undulating or gently sloping surface relief, a mellow surface soil fairly well supplied with organic matter, a friable open subsoil through which water and air can circulate freely, and good surface and internal drainage. It is well suited to the production of all crops common to the county.

The crops, yields, fertilizers used, and the prevailing methods of management are practically the same as for Cecil sandy loam.

This soil is not very extensive. It is developed in long narrow areas in the north-central part of the county.

Talladega gravelly silt loam, smooth phase.—Talladega gravelly silt loam, smooth phase, was differentiated from typical Talladega gravelly silt loam because of its smoother surface relief. This smooth soil occurs in small areas, mainly in belts in the northwestern part of the county within areas of the typical gravelly silt loam. Owing to its smooth surface relief, some of the soil can be cultivated.

The surface soil is light-brown or yellowish-red silt loam containing a considerable quantity of fine shale and slate gravel. It is mellow and friable and where cultivated contains only a small amount of organic matter. The subsoil is light-red or reddish-brown silty clay loam or silty clay. It contains a large quantity of fine mica scales, is friable, and has a greasy slick feel, particularly in the lower part. It extends to a depth ranging from 20 to 40 inches where it grades into the soft rock.

Only a small percentage of the soil of this phase is under cultivation, and unless heavily fertilized or manured, low yields are obtained. On account of its smoother relief and deeper subsoil generally, this soil offers much greater possibilities for agricultural use and development than the typical soil.

Conasauga gravelly silt loam.—To a depth of 6 or 8 inches Conasauga gravelly silt loam consists of brownish-gray or gray mellow and friable silt loam containing only a small quantity of organic matter. The subsoil begins as grayish-yellow heavy but friable silt loam which at a depth of a few inches grades into grayish-yellow or reddish-yellow, mottled with yellowish brown or bright yellow, plastic silty clay extending to a depth ranging from 16 to 36 inches. Below this are the mottled weathered slate or shale rocks. A few small iron concretions are present in places in the subsoil. Scattered over the surface and mixed with the soil are numerous fragments of platy slate, together with some quartz particles. North and west of Stewartsville, the surface is rather smooth, the surface soil is yellowish-gray gravelly silt loam, and the subsoil is yellow or reddish-yellow friable silty clay loam having a greasy feel and containing fragments of weathered rock.

Conasauga gravelly silt loam occurs in small areas, mainly in the north-central part of the county. A few small bodies are east and west of Gold Branch. Only a small percentage of this soil is under cultivation. Because of its fine texture and heavy subsoil, which impedes the movement of the ground water, rendering internal drainage poor, this soil warms up slowly in the spring. It is not such an early soil as Cecil sandy loam or Appling sandy loam. Cotton, corn, and oats are the main crops grown. Unless heavy applications of commercial fertilizer are applied or green manure is added, the yields on this soil are comparatively low.

SOILS HAVING ROUGH OR MOUNTAINOUS SURFACE RELIEF

This group includes Hanceville gravelly silt loam, hilly phase, Talladega gravelly silt loam, rough broken land, and rough mountainous land. These soils and miscellaneous classifications of material cover a large part of the northwestern two thirds of the county.

The rough, broken surface features preclude general-farming operations, and only small fields here and there are cultivated.

These soils are not better soils for forestry than the good farming soils—in fact, they are not so good because of the shallow surface soils and steepness of slope. They occupy narrow ridges and peaks and are in places droughty. Forestry is the only use, under present economic conditions, to which such lands can be devoted. Some areas might possibly be used for grazing, and some patch farming can be carried on. Some areas can possibly be used for orchard fruits or grapes when a demand for such products arises. The growth of timber for crossties, pulpwood, staves, and crating material seems to be the best use for much of this rough land.

Talladega gravelly silt loam.—Talladega gravelly silt loam is an extensive soil in Coosa County. It occupies broad, continuous areas extending from the north-central border west and southwest to Coosa River and down the river as far south as Houses Island.

The surface soil to a depth of 4 or 6 inches is brown or grayish-brown silt loam carrying a rather high percentage of small, angular, thin, platy, and some small, smooth, partly rounded schist fragments. In some places in the forested areas a thin veneer of leaf mold or organic material is on the surface. The subsoil is light-red or brownish-red heavy silt loam or silty clay loam, extending to a depth ranging from 18 to 40 inches. The material in this layer is brittle and friable and contains a large quantity of small mica scales, or chloridic material, which gives it a slick, greasy feel. This material grades below into a soft schist or phyllite formation. In many places there is practically no subsoil, as the shallow covering of surface soil rests directly on the soft rock.

Talladega gravelly silt loam has a very broken, uneven, and rugged surface. Occurring as it does on the knolls and narrow, winding ridges which have in many places very steep slopes, its surface relief is so rough and broken as to preclude its use for general-farming purposes, and only here and there are patches of the soil cultivated. Practically all the merchantable timber has been removed, but the second growth will in time produce some trees that will make saw timber. The best use to which this soil can be put is forestry, although patches here and there can be used for pasture or possibly for the production of grapes and certain fruits.

Hanceville gravelly silt loam, hilly phase.—Hanceville gravelly silt loam, hilly phase, differs from typical Hanceville silt loam in having more and larger irregular fragments of bedrock scattered over the surface, which is rolling or hilly with many steep slopes. The slopes under cultivation are subject to destructive erosion, causing the surface soil to be washed away, more rapid leaching, and exposure, in many places, of the red clay subsoil or the underlying formation (slate, indurated shale, or phyllite), and consequently a depletion of the virgin fertility. The steeper slopes should be devoted to forestry.

Only one body of this soil is mapped. It lies about 1 mile south of Weogufka and extends southwestward for a distance of about 2 miles.

Rough broken land.—Rough broken land occurs in large areas. A continuous belt extends from the northern boundary of the county,

between Weogufka Church and Parkdale, southwestward west of Rockford and thence to the southwestern corner. Large areas are west of Bradford and around Bentleyville, and small areas are scattered throughout the eastern and southern parts.

The soil material of this class of land is essentially the same as that of the Madison and Talladega soils. The surface soil in most places is extremely thin, with here and there a thin layer of subsoil, and in many places the surface soil rests directly on the rock formations. On some of the steeper slopes and tops of the knobs, there is no soil covering and the bare rock outcrops.

Rough broken land comprises narrow ridges, sharp knobs, and steep, stony slopes, and it is too rough in surface relief for farming operations. Patches here and there could possibly be used for farm crops, and some areas can be used for grazing or for the production of grapes and certain fruits, but the main body of this kind of land should be devoted to forestry.

Rough mountainous land.—Rough mountainous land comprises the mountains, high knobs, and narrow ridges with precipitous slopes, which have numerous outcrops of schist or slate rock. Material of this classification has the roughest surface relief in the county and occurs in the most deeply dissected region. It occupies the rougher and steeper areas and the more inaccessible places within the rough broken land areas and within areas of Talladega gravelly silt loam.

Rough mountainous land occurs only in the western half of the county. In many places no sharp line could be drawn between rough broken land and rough mountainous land, but in general a great difference exists between these two classifications of material. Rough mountainous land, because of its inaccessibility, deeply dissected surface, and extremely steep slopes with numerous rock outcrops, is not so well suited to forestry as rough broken land or Talladega gravelly silt loam, as it is difficult and expensive to get lumber out of such places.

SOILS AND THEIR INTERPRETATION

About three fourths of Coosa County is in the extreme western part of the piedmont plateau, and the other fourth is in the extreme southwestern extension of the Appalachian Mountains. Most of the county, therefore, lies within the red soils region of the United States.

The soils are prevailingly light in color, ranging from light gray to red in the surface soil. All of them are low in organic matter, owing to the fact that they were formed under a dense forest cover of pines and hardwoods, which was unfavorable for the development of grass roots and for the accumulation of much organic matter. The small quantity of organic matter in the upper 1- to 3-inch layer of the virgin soil, together with a slight veneer of organic debris in the form of leaves and pine needles, is disseminated after a few years' cultivation.

All the soils range from slightly acid to acid in reaction. The Appling and Cecil soils are, perhaps, the most acid and the Davidson and Decatur soils are only slightly acid in the surface soil.

The pH values given in table 5 show the acidity of representative soils of the county. A pH value lower than 7 shows the degree of acidity of the soil sample. The determinations were made in the laboratory of the Bureau of Chemistry and Soils, by the hydrogen-electrode method.

TABLE 5.—*Results of pH determinations on samples of three soils of Coosa County, Ala.*

Sample No.	Soil type	Depth	pH	Sample No	Soil type	Depth	pH
		Inches				*Inches*	
415801	Cecil sandy loam	0–6	4.92	415821	Davidson clay loam	8–14	5 92
415802	do	6–8	4.75	415822	do	14–40	6.23
415803	do	8–10	4 99	415823	do	40–60	5 22
415804	do	10–32	5 25	415824	Decatur clay loam	0–3	6 00
415805	do	32–60	5 25	415825	do	3–7	5 12
415806	do	72–80	5 09	415826	do	7–13	5 07
415820	Davidson clay loam	0–8	5 92	415827	do	13–49	4 67

The soils have developed under the influence of a temperate climate, where the annual rainfall of approximately 52 inches has been sufficient to compensate for the loss of moisture by evaporation and surface run-off and in addition to afford an almost constant supply for downward movement through the soil. Nearly all the soluble salts have been leached from the surface soil, and no accumulation of carbonates has occurred within the soil profile.

Erosion has been very active on most of the soils and has entirely changed the once plateaulike area of the piedmont section of the county, leaving only a small part of the original surface. Erosion has not only laid waste vast areas of soil through washing and gullying, but, by washing out and carrying away very great amounts of fine material, it has greatly modified the texture of most of the soils since they were originally formed from the parent material.

The prevailing rock formations which underlie and give rise to the soils differ greatly in their chemical and physical composition. The dominant rocks in the southern, eastern, and southeastern parts of the county are granite gneiss. They are cut in places by dikes of dark-colored basic rocks, such as diorite and diabase. The granite-gneiss rocks have given rise to the Cecil and Appling soils. The principal difference between these soils seems to be a more thorough oxidation and leaching of the iron salts in the Cecil soils, which produces a red color in the subsoil, whereas the subsoil of the Appling soils is reddish yellow. It may be that the Cecil soils were better drained at one time, and leaching and oxidation were not impeded. Leaching and oxidation have been important factors in the color-profile development of all the soils in the county.

The dark-colored basic rocks have weathered into a dark-red or maroon material which has given rise to soils classed in the Davidson series. The Davidson soils are similar in color, texture, and structure to the Decatur soils which are derived from limestone, but they differ from those soils in origin and chemical composition. The dark-red color, which extends from the surface to a depth of several feet, indicates complete oxidation of the iron salts in these soils.

Bordering the granite-gneiss formation on the north and west and extending across the county in a northeast-southwest direction, with the northwestern boundary extending from the junction of Coosa River and Hatchet Creek and passing into Talladega County at a point about 1½ miles east of Weogufka Church, is a series of ridges of highly metamorphosed schists and quartz-mica schists. The weathering of these rocks has given rise to the Madison soils which differ from the Cecil soils in that they are more brown in the surface soil, contain more fine material, and have a thinner subsoil underlain by very friable micaceous material. The quartz-mica schist rock is nearer the surface than the granite-gneiss rock underlying the Cecil soils.

In the extreme northwestern corner of the county are two short narrow valleys underlain by limestone which has given rise to the soils of these valleys. Here the process of soil formation was different from that throughout the area underlain by granites. In the limestone region the lime has been dissolved out of the limestone, leaving the impurities which form the soil. In these valleys three distinct series of soils occur—the Decatur, Christian, and Colbert. The pure limestone gives rise to the Decatur soils and part of the Colbert soils, and the interbedded shales and limestone give rise to the Christian soils. As previously mentioned, the Decatur soils are similar to the Davidson soils of the piedmont plateau. The Colbert soils are readily distinguished by their gray surface soils and by the yellow plastic subsoil. The Christian soils are lighter red than the Decatur soils and have more of the characteristics of soils derived from shales than from pure limestone.

Throughout the northwestern part of the county is a broad belt of slate shales and phyllite, which occur in parallel ridges, knobs, and peaks. Erosion has kept close pace with the disintegration and decomposition of these rocks, and in many places only a very thin covering of soil material occurs over the rock. In fact, the partly disintegrated rock outcrops in many places, and no soil of any consequence occurs. The weathering of these rocks has given rise to the Talladega, Hanceville, and Conasauga soils, all of which are light colored in the surface layers, contain a high percentage of silt, and have a smooth floury feel.

Second bottoms, or terraces, which are composed of old alluvial material, are developed along some of the larger streams. The materials of these terraces have lain in place for a sufficient length of time to develop, in some places, a normal soil profile. Such soils have been classed in the Wickham and Holston series. In the first bottoms of the streams is a mixture of recent alluvium, or materials washed from the adjoining uplands, which has been classed as meadow (Congaree material).

A large number of soil types have developed and are mapped in Coosa County. The soil type is the unit of classification and mapping. A soil type has a definite color, texture, structure, and consistence, and aeration and drainage conditions have been uniform throughout. A soil series is made up of one or more soil types which differ mainly in the texture of the surface soil, other characteristics being similar.

Owing to the extent of erosion and to the uneven surface relief, only a few areas of soil in Coosa County have normally developed soil profiles. Cecil sandy loam and Appling sandy loam have the best profile development. They have light-textured surface soils, or A horizons, and heavy-textured subsoils, or B horizons, and the substratum layers, or C horizons, are heavier than the surface soils but not so heavy as the subsoils.

A typical profile development of Cecil sandy loam, in a virgin area, shows the following layers:

(1) 0 to 3 inches, brownish-gray light sandy loam containing considerable organic matter and grass and tree roots.
(2) 3 to 8 inches, grayish-yellow friable mellow light sandy loam containing a very small quantity of organic matter
(3) 8 to 10 inches, friable and crumbly reddish-yellow sandy clay.
(4) 10 to 32 inches, red stiff but brittle clay material marked by well-defined breakage into small angular lumps. The material when moist is readily crushed into a mass of small aggregates or small particles. A cut surface shows a yellowish-red color and, as a rule, the outsides of the soil particles are deeper red than the insides. A small quantity of finely divided muscovite flakes and some small angular quartz grains are present in most places.
(5) 32 to 50 inches, light-red clay which is friable and crumbly and contains a higher percentage of mica and more quartz particles than the layer above.
(6) 50+ inches, mixed light-red, yellow, and gray soft friable materials consisting mainly of kaolin with muscovite flakes, quartz sand, and a few disintegrated granite particles. This is a gradational material between the subsoil and the underlying soft decomposed granite gneiss from which the soil is derived.

SUMMARY

Coosa County is situated in the western end of the piedmont plateau. Rockford, the county seat, is about 40 miles north of Montgomery.

The surface features of the northwestern two thirds of the county consist of parallel ridges and valleys extending in a northeast-southwest direction; the other third has an undulating surface relief, with steep slopes bordering stream courses.

The climate is healthful. The rainfall is ample and well distributed throughout the growing season.

Many different soils occur. They have been grouped into three classes according to their surface relief and relative agricultural value. The soils which occupy the most favorable surface relief and dominate the agriculture are Cecil sandy loam, Cecil gravelly sandy loam, Madison gravelly loam, Appling sandy loam, Davidson clay loam, Decatur clay loam, Christian silt loam, Colbert silt loam, Wickham fine sandy loam, Holston silt loam, and Pope silt loam.

Cotton is the principal crop and practically the only cash crop. Next in importance is corn; some oats, soybeans, cowpeas, velvet-beans, sorgo, watermelons, and garden vegetables are grown. The greater part of the agriculture is carried on in the southeastern third of the county and in the limestone valleys in the northwestern corner.

About 70 percent of the land is so rough and broken in surface relief and so badly gullied as to prevent general-farming operations. Therefore, a large part of Coosa County can be used only for forestry, under present economic conditions.

Land is cheap, the climate is good, and the soils are capable of being built up to a fair state of productivity. The citizenship is of a high character, and the county offers inducements to home seekers.

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"There shall be printed, as soon as the manuscript can be prepared with the necessary maps and illustrations to accompany it, a report on each soil area surveyed by the Bureau of Chemistry and Soils, Department of Agriculture, in the form of advance sheets bound in paper covers, of which not more than 250 copies shall be for the use of each Senator from the State and not more than 1,000 copies for the use of each Representative for the congressional district or districts in which a survey is made, the actual number to be determined on inquiry by the Secretary of Agriculture made to the aforesaid Senators and Representatives, and as many copies for the use of the Department of Agriculture as in the judgment of the Secretary of Agriculture are deemed necessary."

Areas surveyed in Alabama shown by shading

U. S. GOVERNMENT PRINTING OFFICE: 1938

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SOIL MAP
COOSA COUNTY
ALABAMA

ALABAMA DEPARTMENT OF AGRICULTURE
AND INDUSTRIES
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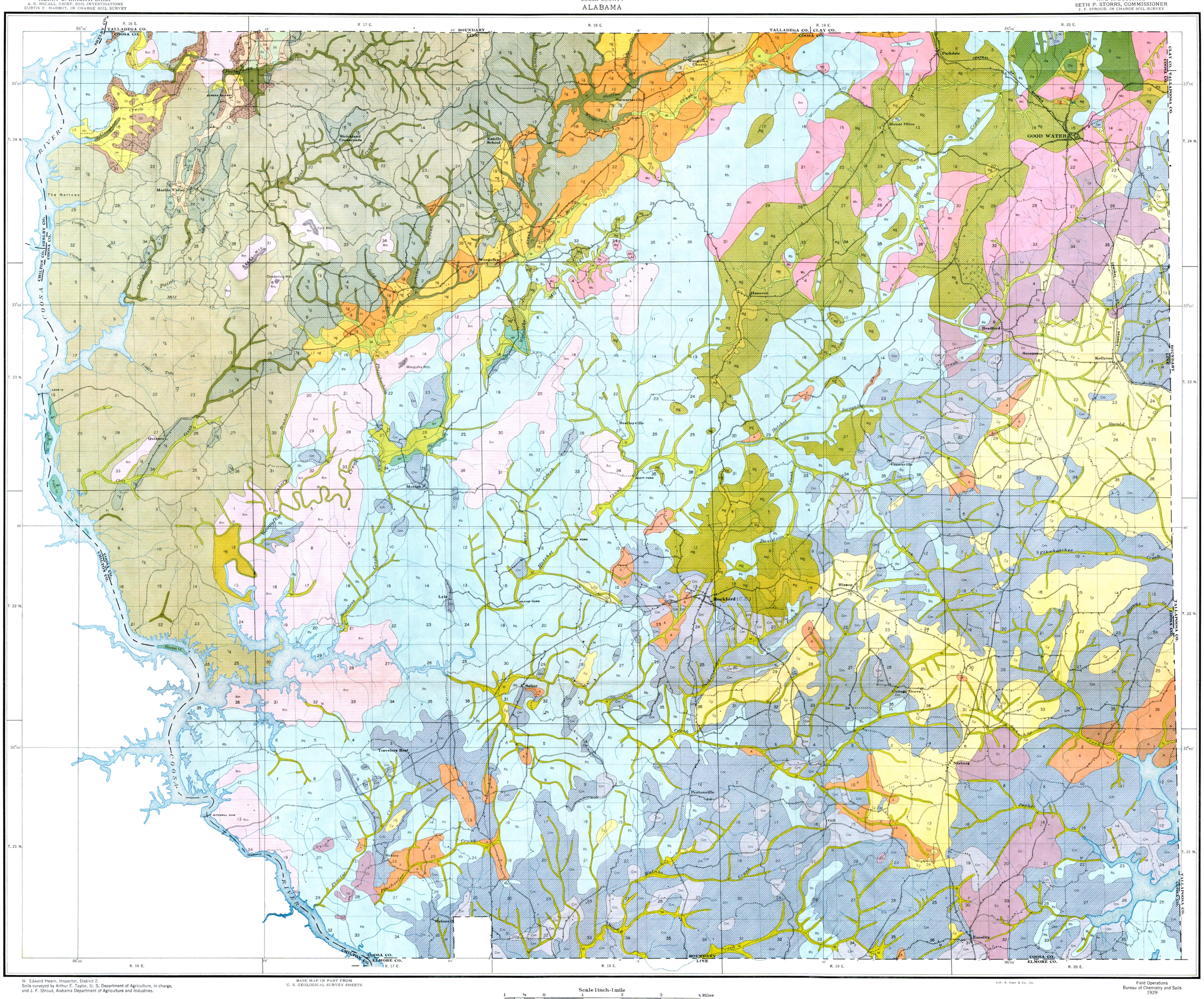

LEGEND

- Appling sandy loam — A
- Decatur clay loam — Dc
- A, Hilly phase
- Dc, Hilly phase
- Cecil gravelly sandy loam — Cm
- Hanceville gravelly silt loam — Hg
- Cm, Hilly phase
- Hg, Hilly phase
- Cecil sandy loam — Cy
- Holston silt loam — Hn
- Cecil clay loam, Hilly phase — Cc
- Madison gravelly loam — Mg
- Christian silt loam — Ch
- Mg, Hilly phase
- Ch, Gravelly phase
- Madison clay loam, Hilly phase — Mc
- Colbert silt loam — Co
- Pope silt loam — Pr
- Conasauga gravelly silt loam — Cg
- Talladega gravelly silt loam — Tg
- Davidson clay loam — Da
- Da, Smooth phase
- Da, Hilly phase
- Wickham fine sandy loam — Wf
- Rough broken land — Rb
- Rough mountainous land — Rm
- Meadow (*Congaree material*) — M

CONVENTIONAL SIGNS

CULTURE
(Printed in black)

- City or Village, Roads, Buildings, Wharves, Jetties, Breakwater, Levee, Lighthouse, Fort
- Secondary roads and Trails
- Railroads, Steam and Electric
- Bridges, Ferry
- R.R.crossings, Tunnel
- Ford, Dam
- School or Church, Cemeteries
- Mine or Quarry, Mine dumps, Made land
- Bluff, Escarpment, Rock outcrop and Triangulation station
- Stony and Gravelly areas
- Soil boundaries
- Boundary lines
- Boundary lines
- Boundary lines
- U.S township and section lines

RELIEF
(Printed in brown or black)

- Contours, Depression contours
- Prominent Hills, Mountain Peaks
- Sand, Wash, and Sand dunes
- Shore and Low-water line, Sandbar

DRAINAGE
(Printed in blue)

- Streams
- Lakes, Ponds, Intermittent lakes
- Intermittent streams
- Springs, Canals and Ditches, Flumes
- Swamp, Salt marshes
- Submerged marsh, Tidal flats

The above signs are in current use on the soil maps. Variations from this usage appear in some maps of earlier dates.

W. Edward Hearn, Inspector, District 2.
Soils surveyed by Arthur E. Taylor, U. S. Department of Agriculture, in charge, and J. F. Stroud, Alabama Department of Agriculture and Industries.

BASE MAP IN PART FROM
U. S. GEOLOGICAL SURVEY SHEETS

Scale 1 inch = 1 mile
1 ½ 0 1 2 3 4 Miles

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Field Operations
Bureau of Chemistry and Soils
1929